



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

08/943.546	10/03/97	AVERKIOU	M	ATL150
APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT		ATTY. DOCKET NO.

QM41/0422

W. BRINTON YORKS JR.
ATL ULTRASOUND
22100 BOTHELL EVERETT HIGHWAY
P O BOX 3003
BOTHELL WA 98041-3003

JAWORSKI EXAMINER

373 ART UNIT PAPER NUMBER

04/22/98

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire one month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-47 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☐ Claim(s) _____ is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☒ Claim(s) 1-47 are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

FRANCIS JAWORSKI
PRIMARY EXAMINER
ART UNIT 3737

-SEE OFFICE ACTION ON THE FOLLOWING PAGES-

Art Unit: 3305

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-16 and 39-42, drawn to Apparatus and Method for Harmonic Imaging, classified in class 600, subclass 458.
 - II. Claims 17-34, drawn to Apparatus and Method for Harmonic Imaging with Partial Decorrelation, classified in class 600, subclass 458.
 - III. Claims 35-38, drawn to Apparatus for Harmonic Imaging with Image Blending, classified in class 600, subclass 458.
 - IV. Claims 43-47, drawn to Apparatus for Imaging Non-Linear Tissue Response, classified in class 600, subclass 443.

2. The inventions are distinct, each from the other because of the following reasons: Inventions pairs [I and (II, III)] and also [IV and I] are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because in the case of the first pair the harmonic image may be produced directly by filtering without image blending with the fundamental or partial decorrelation and in the case of the second pair other non-linear relationships may be expressed in the image such as insonifying pulse wave pressure non-linearity (B/A imaging). The subcombination has separate utility such as in the case of the first pair in the production of

Art Unit: 3305

artifact-reduced harmonic echo images and in the case of the second pair in the production of blended images including linear responses.

3. Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as in the removal of image artifacts. See MPEP § 806.05(d).

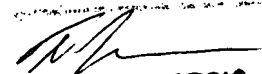
4. Because these inventions are distinct for the reasons given above and the search required for Group IV for example is not required for Group I-III, restriction for examination purposes as indicated is proper.

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143). Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Francis J. Jaworski whose telephone number is (703) 308-3061.

FJJ:fjj

April 21, 1998


FRANCIS JAWORSKI
PRIMARY EXAMINER
ART UNIT 3305

3737